

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001420

A. CLASSIFICATION OF SUBJECT MATTER Int. Cl. ⁷ : A61M 16/00 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI IPC A61M-016/IC A62 B/IC + keywords (ventilat respirat breath [vocal cord] voice close shut duration period time heart cardi assist support synch rhythm wave fail indica analys determin measur)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2294642 A (BRAIN) 8 May 1996 Whole document	1-8, 11, 13, 15, 17, 19-24, 26-28, 30, 34- 36, 39, 41, 43
A	US 4519399 A (HORI) 28 May 1985 Whole document	
X	WO 2000/067827 A1 (RESPIRONICS INC) 16 November 2000 Pages 3-17	47,49-52,54- 59,61-66, 92,94,96,97, 121,123,125, 126,150,152, 154,155
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family	
Date of the actual completion of the international search 5 November 2004		Date of mailing of the international search report 12 JAN 2005
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer Sue Thomas Telephone No : (02) 6283 2454

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1989/009041 A1 (CARDIOPULMONARY CORP) 5 October 1989 Pages 6-20	47, 54, 61, 68-70, 76-78, 84-86
X	US 5353788 A (MILES) 11 October 1994 Whole document	47, 54, 61
X	US 2002/0169384 A1 (KOWALLIK et al) 14 November 2002 Whole document	47-49, 54-56, 61-63
A	WO 2000/045702 A1 (REES et al) 10 August 2000 Whole document	
X	WO 1997/030744 A1 (UNIVERSITY OF MASSACHUSETTS) 28 August 1997 Pages 3-11	68, 76, 84
X	US 5188098 A (HOFFMAN et al) 23 February 1993 Columns 1-6	68, 76, 84
X	WO 2002/026283 A2 (RESPIRONICS INC) 4 April 2002 Pages 6-23	92-94, 96, 97, 100, 103, 104, 116, 118, 121-123, 125, 126, 129, 131-133, 145, 147, 150-152, 154, 155, 158, 160-162, 174, 176
X	WO 1999/061088 A1 (RESMED LTD) 2 December 1999 Pages 11-19	92-94, 96, 100-103, 116, 121-123, 125, 126, 129, 145, 150-152, 154, 155, 158, 174
X	US 2003/0121519 A1 (ESTES et al) 3 July 2003 Pages 4-14	92, 121, 150
X	EP 1295623 A1 (ELA MEDICAL) 26 March 2003 Whole document	92, 93, 121, 122, 150, 151

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C (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1999/045989 A1 (RESPIRONICS INC) 16 September 1999 Pages 16-46	92, 121, 150
X	US 5794615 A (ESTES) 18 August 1998 Whole document	92, 121, 150

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-46 relate to a method and apparatus for detecting reflex vocal cord closure

Claims 47-67 relate to a method and apparatus for assessing treatment by determining heart treatment index as a function of duration and pressure of gas delivery

Claims 68-91 relate to a method and apparatus for treating heart failure by generating a cardiac pressure waveform synchronized with the cardiac rhythm of the patient

Claims 92-178 relate to a method and apparatus for evaluating heart failure from the airflow of the patient

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

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Information on patent family members

International application No.

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
GB 2294642	CA 2162013	US 5584290	
US 4519399	DE 3345067	FR 2537429	JP 59107399
US 2002/169384	EP 1226841	DE 10103973	
US 5353788	NIL		
WO 8909041	AU 15167/92	AU 35477/89	DK 235490
	EP 0407463	NO 904250	US 5020516
WO 0067827	AU 49772/00	CA 2369305	EP 1177006
WO 1997/030744	AU 19709/97	US 5740797	
US 5188098	AU 28832/92	WO 1993/008859	
WO 2002/026283	AU 93060/01	CA 2421774	EP 1328305
	US 2002/088465	US 2004/221848	
WO 1999/061088	AU 31211/99	AU 37099/01	AU 40236/99
	EP 1083953	US 2003/154979	US 2004/237963
US 2003/121519	AU 30801/99	CA 2323455	EP 1061981
	US 5535738	US 5794615	US 6105575
	WO 9945989	WO 2004/047621	
EP 1295623	FR 2829917	US 2003/078619	
WO 1999/045989	AU 30801/99	CA 2323455	EP 1061981
	US 5535738	US 5794615	US 6105575
	WO 2004/047621		
US 5794615	AU 30801/99	CA 2323455	EP 1061981
	US 5535738	US 6105575	US 5794615
	US 2003/121519	WO 1999/45989	WO 2004/047621
WO 2000/045702	AU 22788/00	CA 2359575	EP 1152690

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX